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October 26, 2006

Docket No.: 50-425

NL-06-2468

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D. C. 20555-0001

Vogtle Electric Generating Plant - Unit 2
Licensee Event Report 2-2006-003
Unit 2 Reactor Coolant Pump No. 4 Tripped
Resulting in an Automatic Reactor Trip

Ladies and Gentlemen:

In accordance with the requirements of 10 CFR 50.73, Southern Nuclear Operating Company hereby submits a Vogtle Electric Generating Plant licensee event report for a condition that was determined to be reportable on August 27, 2006.

Sincerely,

A handwritten signature in black ink, appearing to read "Don E. Grissette", written over a horizontal line.

Don E. Grissette

DEG/DRG/daj

Enclosure: LER 2-2006-003

cc: Southern Nuclear Operating Company
Mr. J. T. Gasser, Executive Vice President
Mr. T. E. Tynan, General Manager – Plant Vogtle
RType: CVC7000

U. S. Nuclear Regulatory Commission
Dr. W. D. Travers, Regional Administrator
Mr. R. E. Martin, NRR Project Manager – Vogtle
Mr. G. J. McCoy, Senior Resident Inspector – Vogtle

Enclosure

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LICENSEE EVENT REPORT (LER)

(See reverse for required number of digits/characters for each block)

Estimated burden per response to comply with this mandatory collection request: 50 hours. Reported lessons learned are incorporated into the licensing process and fed back to industry. Send comments regarding burden estimate to the Records and FOIA/Privacy Service Branch (T-5 F52), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to infocollects@nrc.gov, and to the Desk Officer, Office of Information and Regulatory Affairs, NEOB-10202, (3150-0104), Office of Management and Budget, Washington, DC 20503. If a means used to impose an information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.

1. FACILITY NAME Vogtle Electric Generating Plant – Unit 2	2. DOCKET NUMBER 05000-425	3. PAGE 1 OF 4
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4. TITLE
Unit 2 Reactor Coolant Pump #4 tripped, resulting in an automatic reactor trip

5. EVENT DATE			6. LER NUMBER			7. REPORT DATE			8. OTHER FACILITIES INVOLVED	
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	MONTH	DAY	YEAR	FACILITY NAME	DOCKET NUMBER(S)
08	27	2006	2006	003	00	10	26	2006		05000
									FACILITY NAME	DOCKET NUMBER(S)
										05000

9. OPERATING MODE	11. THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR § : (Check all that apply)			
	20.2201(b)	20.2203(a)(3)(i)	50.73(a)(2)(i)(C)	50.73(a)(2)(vii)
10. POWER LEVEL 100	20.2201(d)	20.2203(a)(3)(ii)	50.73(a)(2)(ii)(A)	50.73(a)(2)(viii)(A)
	20.2203(a)(1)	20.2203(a)(4)	50.73(a)(2)(ii)(B)	50.73(a)(2)(viii)(B)
	20.2203(a)(2)(i)	50.36(c)(1)(i)(A)	50.73(a)(2)(iii)	50.73(a)(2)(ix)(A)
	20.2203(a)(2)(ii)	50.36(c)(1)(ii)(A)	X 50.73(a)(2)(iv)(A)	50.73(a)(2)(x)
	20.2203(a)(2)(iii)	50.36(c)(2)	50.73(a)(2)(v)(A)	73.71(a)(4)
	20.2203(a)(2)(iv)	50.46(a)(3)(ii)	50.73(a)(2)(v)(B)	73.71(a)(5)
	20.2203(a)(2)(v)	50.73(a)(2)(i)(A)	50.73(a)(2)(v)(C)	OTHER Specify in Abstract below or in NRC Form 366A
	20.2203(a)(2)(vi)	50.73(a)(2)(i)(B)	50.73(a)(2)(v)(D)	

12. LICENSEE CONTACT FOR THIS LER

NAME Amy Whaley, Performance Analysis	TELEPHONE NUMBER (Include Area Code) (706) 826-3858
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13. COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX

14. SUPPLEMENTAL REPORT EXPECTED		15. EXPECTED SUBMISSION DATE		
YES (If yes, complete 15. EXPECTED SUBMISSION DATE)	X NO			

16. ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines)

On August 27, 2006, at 0631 EDT, Unit 2 experienced an automatic reactor trip from 100% power. The Loop 4 Reactor Coolant Pump (RCP) tripped and the Reactor Protection System (RPS) actuated on "Reactor Coolant System Low Flow." The post-trip investigation revealed that, inside the RCP motor junction box, a degraded current transformer (CT) wire was in contact with a degraded surge arrestor cable shield. The degraded CT wire was grounded in the CT wiring junction box, creating a ground path that resulted in a fault in the RCP #4 motor junction box that caused the pump to trip.

Investigation determined that the cause of this event was an inadequate design change package. Contributing causes were inadequate procedures, work instructions, and installation practices. Prior to restart, the Loop 4 RCP junction box CT wiring and CTs were replaced as well as the surge arrestor wiring and the differential protective relay in the feeder breaker cubicle for RCP #4.

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17. NARRATIVE (If more space is required, use additional copies of NRC Form 366A)

A) REQUIREMENT FOR REPORT

10 CFR 50.73 (a)(2)(iv) requires this report because an unplanned actuation of the reactor protection system (RPS) occurred.

B) UNIT STATUS AT TIME OF EVENT

At the time of this event, Unit 2 was in Mode 1 (Power Operation) at 100% rated thermal power. Other than that described herein, there was no inoperable equipment that contributed to the occurrence of this event.

C) DESCRIPTION OF EVENT

On August 27, 2006, at 0631 EDT, as a result of a trip of the Loop 4 Reactor Coolant Pump (RCP), the Unit 2 reactor automatically tripped from 100% power due to the actuation of the Reactor Protection System (RPS) "Reactor Coolant System (RCS) Low Flow" with reactor power greater than the P-8 permissive. All safety related systems responded as designed, and the plant was stabilized in Mode 3. The NRC Operations Center was notified of this event on August 27, 2006, at 0920 EDT.

Investigation of the event discovered the current transformer (CT) wires for RCP #4 resting on a surge arrester cable. The surge arrester cable had an axial split in the outer layer of insulation at the point where the surge arrester cable contacted the CT wiring. The surge arrester cable was found improperly terminated with the cable shield in contact with the terminal lug which caused the shield to be energized. Since the CT wiring was lying on the surge arrester cable at the location of the split, it was judged that voltage stress had occurred which deteriorated the cable insulation of both the surge arrester cable and one of the CT wires. By design, this particular CT wire is grounded in the CT wiring junction box which is located on the side of the motor junction box. Therefore, the postulated path to ground is from the degraded surge arrester cable shield through the degraded CT wire to the ground point of the CT wire in the CT junction box. It was concluded that the above factors resulted in a fault in the RCP #4 motor junction box that caused the pump to trip.

D) CAUSE OF EVENT

Investigation determined that the cause of this event was an inadequate design change package to add surge protection to the RCP motor in that an incorrect type of cable was specified. Contributing causes were inadequate procedures, work instructions, and installation practices.

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17. NARRATIVE (If more space is required, use additional copies of NRC Form 366A)

No procedural guidance existed for the routing and securing of cables and grounds within the 13.8KV RCP junction box. This led to the CT leads being left in close proximity to the surge arrestor cables. The design and work planning process led the maintenance electrician to use an incorrect cable, i.e., shielded cable of an incorrect stranding class, for the application due to technical inaccuracies in the design package. During the installation process of lugging, terminating and taping the surge arrestor cables, the shield in the cable was overlooked and left in contact with the lug which energized the shield. In addition, the CT cables were not restrained during the motor installation process, and as a result were found in contact with the surge arrestor cables. Since there was no guidance that provided spacing or restraining criteria in 13.8KV enclosures, it is indeterminate whether the CT cables were left in contact with the surge arrestor cables during motor installation, or if the CT cables became in contact with the surge arrestor cables over time due to motor vibration. The design change package contained technical inaccuracies (e.g., incorrect cable specified and inconsistencies between the design change package and associated drawings) which were not discovered in the design change verification process or during the site technical review.

E) ANALYSIS OF EVENT

The RPS is designed to generate a reactor trip signal due to loss of flow in a single RCS loop when the reactor is operating above the P-8 permissive. When the Loop 4 RCP tripped, the RPS functioned as designed to trip the reactor. All safety related systems responded as designed, and the plant was stabilized in Mode 3. Based on these considerations, there was no adverse effect on plant safety or on the health and safety of the public as a result of this event.

This event does not represent a safety system functional failure.

F) CORRECTIVE ACTION

- 1) The Unit 2 RCP motors subject to the motor surge protection design change (RCPs 2 and 4) were inspected and cables were replaced prior to restart.
- 2) During the Unit 2 Spring 2007 outage (2R12), the Unit 2 RCP motors not subject to the motor surge protection design change (RCPs 1 and 3) will be inspected to ensure adequate spacing for junction box cabling. In addition, the remaining Unit 2 and common motors affected by the surge protection design change will be inspected at that time. Estimated completion is 4/15/07.
- 3) The Unit 1 RCPs were inspected and the necessary corrections were made. Other Unit 1 pump motors affected by the design change to add surge protection will be inspected and corrections will be made as necessary during the Unit 1 Fall 2006 outage (1R13). Estimated completion is 11/1/06.

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17. NARRATIVE (If more space is required, use additional copies of NRC Form 366A)

- 4) The appropriate corporate design procedures, plant design procedures, and plant maintenance procedures will be revised. Training will be provided to the appropriate personnel on voltage stress effects and spacing criteria for 4.16KV, 13.8KV and 25KV enclosures. Estimated completion date for procedure revisions is 12/15/06. Estimated completion date for training is 4/15/07.
- 5) The technical inaccuracies in the design change package for adding the surge protection to 13.8KV and 4.16KV motors will be corrected. Estimated completion is 12/15/06.

G. ADDITIONAL INFORMATION

- 1) Failed Components:
None
- 2) Previous Similar Events:
None
- 3) Energy Industry Identification System Codes:
Reactor Coolant System – AB